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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,515	12/01/2005	Kunio Nakashima	2005_1033A	2998

513 7590 03/27/2006

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EXAMINER

SAVAGE, JASON L

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/541,515

Applicant(s)

NAKASHIMA ET AL.

Examiner

Jason L. Savage

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20050708</u> . | 6) <input type="checkbox"/> Other: ____.  |

Art Unit: 1775

### ***Claim Objections***

Claims 2, 10-14 and 16-20 are objected to for being an improper form of alternative expression. One acceptable form of alternative expression, which is commonly referred to as Markush groups, recites members as being "selected from the group consisting of A, B, C." See *Ex parte Markush*, 1925 C.D. 126 (Comm'r Pat. 1925). See MPEP 2173.05(h).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 5 recites that the upper layer may contain 100% silver; however, it is unclear how Applicant could form an upper layer having the claimed silver content which additionally meets the hardness value of not more than 40 Hv recited in independent claim 1. As evidenced by JP'355 (JP 11-257355 English Machine Translation), an upper layer containing 100% silver is taught to have a hardness Hv of 108 (DETAILED DESCRIPTION [Table 6]).

Art Unit: 1775

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-2 are objected to since it is unclear what constitutes a simple metal layer. The claims would be clarified if Applicant were to remove the term 'simple' from the claims.

Claims 3-5 and 7 are rejected since they recite the main element of the upper or under layer is contained in an amount of up to 100%; however, it further recites that the upper or under layer are alloys. As such, it would be impossible for the element to be contained in an amount of 100%.

Claims 3-7 are additionally rejected since they recite that the amount of the main element is within the claimed range "when" (emphasis added) the upper layer is an alloy of the claimed element and another element. The limitations of the upper or under layer materials being the recited alloys should be positively recited as being alloys of the recited materials otherwise it is unclear how the recited claims further limit the parent.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1775

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6, 8-14 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (US 5,666,644).

Tanaka teaches a bearing comprising an electrodeposited upper layer of tin film and an electrodeposited copper alloy underlayer (col. 3, ln. 43-52). Tanaka further teaches that the electroplated underlayer is subjected to diffusion to form a copper-tin intermetallic having a hardness of 520 Hv (col. 3, ln. 43-51). As such, the electrodeposited film of Tanaka meets the claim limitations wherein a soft tin upper layer having an Hv value of less than 40 is applied on an under layer having an Hv value of greater than 60.

Regarding claims 3 and 6, the composite of Tanaka anticipates the claims wherein the upper layer content is 100% Sn and the under layer content is an alloy of copper and tin. Although Tanaka does not teach the relative percentages of materials in the under layer, it would meet the limitation of being at least 50% copper.

Regarding claim 8, Tanaka teaches the thickness of the layers are 1.5 microns (col. 3, ln. 43-52).

Regarding claim 9-14 and 19-20, Tanaka teaches the composite is formed on a substrate such as steel (col. 2, ln. 32-44).

Claims 1-3, 6, 9-14 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by JP'355 (JP 11-257355 English Machine Translation).

Art Unit: 1775

JP'355 teaches a sliding member comprising an electrodeposited upper layer of tin or indium film and an electrodeposited copper-tin alloy underlayer (abstract/solution). JP'355 further teaches that the upper layer forming tin material is an alloy with silver comprising 2-50% Sn (CLAIMS). JP'355 further teaches that upper layer may be an alloy with silver comprising 2-28% In (CLAIMS). JP'355 also teaches an upper layer of 100% Sn (DETAILED DESCRIPTION [0020]). JP'355 also teaches that the Cu-Sn alloy for the underlayer may comprising 5% Sn (DETAILED DESCRIPTION: par [0019]).

Regarding claim 1, the embodiments of JP'355 in examples 2-3, 8, 10-12 all have upper layer hardness below 40 (DETAILED DESCRIPTION: par [0034]). Although JP'355 is silent to the Cu alloy under layer hardness, it is the position of the Examiner the copper alloy containing 5% Sn would meet the claim limitation since it is the same content as that claimed in claim 6.

Regarding claims 3 and 6, JP'355 teaches the Sn upper layer content may be 100% and the Sn in the under Cu-Sn alloy layer may be 5% respectively.

Regarding claim 9-14 and 19-20, JP'355 teaches the composite member is coated onto a steel backing (abs).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5, 7, 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'355 (JP 11-257355 English Machine Translation).

JP'355 teaches what is set forth above however it is silent to some of the claim limitations.

Regarding claims 4 and 15-16, JP'355 teaches that soft upper layers containing indium are known. Although JP'355 does not recite the claimed amount of indium, it would have been within the purview of one of ordinary skill in the art to have recognized that alloys containing higher percentages of indium could be employed as the upper layer with a reasonable expectation of success.

Regarding claims 5 and 17-18, JP'355 is silent to forming an alloy of silver and antimony. However, the claim recites that the upper layer may be 100% silver. JP'355 exemplifies an embodiment wherein the upper layer is 100% Ag (DETAILED DESCRIPTION par[0020]).

Regarding claim 7, JP'355 teaches that an electrodeposited zinc layer may be formed as a under layers (DETAILED DESCRIPTION par[0012]). The zinc layer of JP'355 would meet the claim limitation wherein the zinc alloy contains 100% zinc.

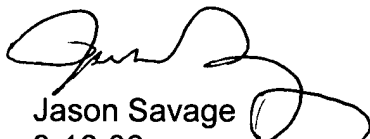
Regarding claim 8, JP'133 does not explicitly recite the thickness of the upper layer coating. However, it does teach that the under layer coating thickness is no more than 10-30 micrometers (DEPTAILED DESCRIPTION – [0019]) It would have been obvious to one of ordinary skill in the art to have formed the upper layer to have a thickness substantially the same or less than the thickness of the under layer coating.

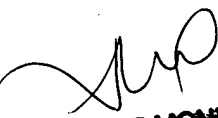
Art Unit: 1775

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Savage whose telephone number is 571-272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jason Savage  
3-16-06

  
**JENNIFER MCNEIL**  
**PRIMARY EXAMINER**  
3/17/06